EDITORIAL

Evaluation and Outcome of Acute Scrotum at Gezira National Center of Pediatric Surgery and Gezira Hospital for Renal Diseases and Surgery; January 2009 to July 2012

Loui Eltayeb Mustafa[1], Fiasal Abd Elgalil Nugud[2] and Mustafa Omran Mansur[3]

1. MBBS, Juba University (2003), residence doctor of general surgery (SMSB)
2. MD, Associate prof. of Pediatric Surgery, University of Gezira
3. MD Associate prof of Urology, University of Gezira

Correspondence to: Loui Eltayeb Mustafa. Address: Wad Medani Teaching Hospital, Wad Medani, Gezira State, Sudan. Tel: 00249912489356 - 00249122321351E-mail:

loaymustafa78@yahoo.com

ABSTRACT:

Objective: To evaluate the clinical presentation, causes, management and outcome of patients who presented with clinical aspect of acute scrotum.

Material and methods: A total of 72 patients aged from one day to adulthood period hospitalized with acute scrotum were included in the study. Most of patients underwent surgical exploration of the scrotum, and the medical records were revised to obtain information regarding operative findings and post-operative complications.

Results: The different common causes of acute scrotal pain were testicular torsion (27.8%), epididymo-orchitis (20.8%), and torsion of testicular appendix (19.4%). The most common age group affected by the disease is between 10 and 20 years (37.5%). Approximately two-thirds of patients presented late after 24 hours of onset of pain (61.1%), and (9.2%) developed post-operative complications.

Conclusion: Generally, children and teenagers are more likely to be affected by scrotal conditions, and most patients presented late. Testicular torsion was the most common and most serious condition which must be identified early without delay to prevent testicular damage. Any patient suspected to have testicular torsion must be subjected immediately to scrotal exploration. Post-operative complications were low.

Key words: acute scrotum, testicular torsion, epididymo-orchitis.

Introduction:

Acute scrotum is acute onset of pain and /or swelling of the scrotum that requires either emergency surgical intervention or specific medical therapy. (1) The differential diagnosis includes spermatic cord torsion, torsion of the testicular appendix, epididymo-orchitis, trauma, incarcerated hernia and tumour(2, 3) .Testicular torsion is the most dramatic and potentially the most serious of the acute processes affecting the scrotal contents (4). It is a true surgical emergency because the likelihood of testicular salvage decreases, as the duration of torsion increases. (5)Despite all the investigations described in the management of acute conditions, early scrotal exploration remains the most important diagnostic as well as therapeutic modality (6) .The use of color Doppler US in diagnosing acute scrotum is controversial and many studies were done about its effectiveness and role of evaluation of these conditions (7, 8). If the history and examination strongly suggest that testicular torsion is present and the duration of pain is less than 12 hours, urgent surgical intervention is indicated, no imaging studies are required because they may delay treatment and thereby jeopardize testicular survival.(9)

Patients and Methods:

EDITORIAL

This is a retrospective and prospective, descriptive hospital based study of patients presenting with clinical aspects of acute scrotum at Gezira National Center of Pediatric Surgery (GNCPS) and Gezira Hospital of Renal diseases and Surgery (GHRDS), in Gezira state, Sudan, between January 2009 and July 2012. A total number of 72 cases were included in the study and evaluated by history, examination, laboratory tests, and radiological studies, if indicated. Doppler US was done in few patients, and most patients underwent surgical exploration of the scrotum. Medical records were revised to obtain information regarding operative findings and post-operative complications. The data were analyzed using statistical program for scientific science, SPSS.

Results:

The main age group at presentation was between 1year and 10 years (48.6%), two-thirds of patients (61.1%) presented after 24 hours of onset of symptoms. The most common symptom associated with scrotal pain was vomiting (47.2%). US was done in 8cases (11.1%) and testicular torsion was diagnosed in two cases of them. The different causes of acute scrotal pain were testicular torsion (27.8%), epididymo-orchitis (20.8%), torsion of testicular appendix (19.4%), orchitis (9.7%), haematocele (5.6%), scrotal injury (4.2%), incarcerated hernia (4.2%), testicular rupture (2.8%), idiopathic scrotal edema (2.8%), testicular abscess (1.4%), and scrotal abscess (1.4%). Surgical exploration of the scrotum was done in (90.3%), and (9.7%) were treated conservatively. Post-operative complications occurred in (9.2%), and there was no mortality in the study.

Table 1: Age distribution among patients diagnosed as acute scrotum

Age group	Number of patients	Percentage
< 1 year	6	8.3%
1 year- < 5 years	18	25%
5 years< 10years	17	23.6%
10 years-20 years	27	37.5%
> 20 years	4	5.6%
	72	100%

Table 2: Post-operative complications among patients of acute scrotum

Type of complications	Number of patients
Intra-operative bleeding	1 case
Wound infection	1 case
Abscess formation	1 case
Fournier gangrene	2 cases
Chronic epididymo-orchitis	1 case

Discussion:

EDITORIAL

The main age group that presented with acute scrotum was between 1 to 10 years, because the common cause of these conditions, which is testicular torsion, most commonly occurred in this age group. Approximately two-thirds of patients presented after 24 hours of onset of pain, and this affected the management and outcome as time is important for testicular salvage. The late presentation related to many reasons as most of these people come from rural areas where they are reluctant to attend doctors. The most common symptom associated with scrotal pain was vomiting, but other symptoms occurred in few patients who could give a clue about the cause such as fever and burning micturition which indicated infection. Doppler ultra-sound (U/S) of the testis to exclude testicular torsion is controversial and many studies were done about its effectiveness and role in the evaluation of these conditions. From this study we cannot conclude that US is not important in diagnosing patients with serious conditions of acute scrotum because of small number of patients subjected to U/S. In this study 65 patients were operated on. Preoperatively, testicular torsion was diagnosed in 46 cases. Postoperatively 24 cases were confirmed as testicular torsion and 14 cases as torsion of testicular appendix. The other differential diagnoses according to the incidence were: epididymo-orchitis, orchitis, post-traumatic haematocele, incarcerated hernia, scrotal injury, testicular rupture, scrotal edema, scrotal and testicular abscesses. From the total 24 cases who were found to have torsion at surgery, non-viable testis were confirmed in 7 patients, (29.2%), and from the total 65 cases, orchidepexy was done in 31 patients, (47.7%), orchieoctomy was done in 3 cases. The different causes of acute scrotal pain found in this study correlated with literature and other studies. Surgical exploration must be done as early as possible once testicular torsion is suspected. It was not possible to follow-up the patients after discharge from the hospital.

References:

1. William CS. Acute scrotal pathology. Surg. CIN. America 1982; 62(6): 955-970.
2. Cass AS, Cass BP, Veraragbavan K. Immediate exploration of the unilateral acute scrotum in young male subjects. J Urol 1980; 124: 829-832.
3. Doehn C, Fornara P, Kausch I, Buttner H, Friedrich HJ, Jocham D, Value of acute phase proteins in the differential diagnosis of acute scrotum. Eur Urol 2001; 39: 215-221.
4. Karmazyn B. Steinberg R, Kornreich L,etal (March200
5. Trojlan TH, Lishnak TS, Heiman D (April 2009), epididymitis and orchitis an overview, AM fam physician; 79 (7): 583-7.
6. Edelsberg JS, Surh YS (August 1988). "The acute scrotum" Emerg med clin North AM 6 (3): 521-46.
7. African Journals on line (AJOL), Acute scrotum in children and the role of early exploration, Queen Rania Children Hospital, King Hussein Medical Centre, Amman , Jordon. 8. Gale JSLE (February1999), "Diagnosis and treatment of the acute scrotum". American Family Physician, 59 (4): 817-24.
9. Lam WW, Yap TL, Jacobsen AS, Teo HJ. Color Doppler Ultrasonography replacing surgical exploration for acute scrotum: myth or reality? Journal club. March 17, 2005.